

the Atlantic States and fields were clean and well cultivated, but in the central Gulf area it was rather too cool for best growth, although good progress was made. Conditions were generally favorable in Tennessee, Arkansas, and Louisiana, with good to excellent growth noted, while in Oklahoma adequate warmth and sunshine were very helpful, although there were still reports of grass and weeds in the east. General condition was spotted in Texas, but growth was very good under favorable weather and squares were forming to central parts, while a small amount of cotton was marketed in the South.

During the last decade there was too much rain in most sections of the Atlantic States, which hindered cultivation and favored increased weevil activity and there were complaints of fields becoming weedy and plants not fruiting well. In the central Gulf area progress was fair to excellent, but there was too frequent rain locally, although some States had dry, sunny weather, which was excellent for growth and checking weevil. The weather was also mostly favorable in Oklahoma and Texas, with picking progressing in southern Texas.

Miscellaneous crops.—Ranges, pastures, and meadows did well in most sections east of the Rocky Mountains, except for some local dryness in the Lake region and rather extensive need of moisture in the northern Great Plains. Local areas west of the Rockies also needed a replenishment of water supplies, but range feed still appeared ample and livestock were mostly thriving. Sheep shearing had been completed in many parts by the close of the month.

Potatoes made satisfactory advance and truck crops were largely in good condition, except that cool nights retarded growth locally. Tobacco curing became general in the Southeast and growth and cultivation were satisfactory in Kentucky at the close of the month. Sugar beets continued to do well throughout the month, while sugar cane was thriving generally. Citrus groves were in excellent condition in Florida, with the fruit holding well, and oranges were excellent in California.

WEATHER OF THE ATLANTIC AND PACIFIC OCEANS

551.506 (261.1)

NORTH ATLANTIC OCEAN

By F. A. YOUNG

June, 1929, lived up to its reputation as being one of the quietest months of the year over the North Atlantic, and gales were not observed in more than four days in any 5° square, the maximum occurring in the square between the forty-fifth and fiftieth parallels and twenty-fifth and thirtieth meridians. About the only unusual feature was a tropical disturbance during the latter part of the month; that will be referred to later. As shown by Table 1, there were no unusually large departures, and the pressure distribution, as a whole, did not differ greatly from the normal.

Fog was unusually prevalent over the greater part of the ocean and was reported on from 17 to 21 days between the fortieth and forty-fifth parallels, west of the forty-fifth meridian. Fog was also observed from 8 to 12 days over the middle and eastern sections of the steamer lanes, from 3 to 5 days along the European coast, and on 9 days along the American coast, between Hatteras and New York.

TABLE 1.—Averages, departures, and extremes of atmospheric pressure at sea level, 8 a. m. (seventy-fifth meridian). North Atlantic Ocean, June, 1929

Stations	Average pressure	Departure	High-est	Date	Low-est	Date
	<i>Inches</i>	<i>Inch</i>	<i>Inches</i>		<i>Inches</i>	
Julianehaab, Greenland.....	29.90	(1)	30.20	21st ¹	29.64	9th.
Belle Isle, Newfoundland.....	29.86	+0.02	30.26	6th ²	29.38	18th.
Halifax, Nova Scotia.....	29.94	-0.03	30.24	23d	29.60	1st. ²
Nantucket.....	29.94	-0.06	30.12	9th	29.58	29th.
Hatteras.....	29.98	-0.04	30.20	17th	29.66	10th.
Key West.....	29.97	-0.02	30.12	14th	29.84	10th.
New Orleans.....	29.96	-0.04	30.16	31st	29.82	2d.
Cape Gracias, Nicaragua.....	29.88	-0.04	29.96	13th	29.82	11th. ²
Turks Island.....	30.09	+0.06	30.16	13th ²	30.00	4th. ²
Bermuda.....	30.19	+0.06	30.42	13th ²	29.90	3d.
Horta, Azores.....	30.17	-0.04	30.46	21st	29.76	27th.
Lerwick, Shetland Islands.....	29.83	+0.03	30.21	28th	29.34	6th.
Valencia, Ireland.....	30.03	+0.03	30.60	21st	29.46	6th.
London.....	30.02	+0.09	30.46	21st	29.41	6th.

¹ No normal available.

² And on other date or dates.

³ From normals shown on Hydrographic Office Pilot Chart, based on observations at Greenwich mean noon, or 7 a. m. seventy-fifth meridian.

⁴ From normals based on 8 a. m. observations.

On May 30 and 31 a well-developed disturbance was central near 45° N., 35° W. This low moved slowly toward the NNE., decreasing in intensity, and on June 1 the center was near 50° N., 31° W., with moderate easterly and southerly gales in the northern and eastern quadrants, respectively. On the 1st the station at Horta, Azores, reported a southerly wind, force 8, and vessels in the vicinity encountered southwesterly to southerly winds, force 6 to 7.

From the 2d to 7th the conditions over the ocean were, as a rule, comparatively featureless, with moderate winds prevailing, except that on the 3d a slight depression of limited extent was in the vicinity of the Bermudas, and on the 4th northeast winds of force 7 to 8 were reported off the American coast between Jacksonville and Charleston, while on the 5th southerly to southwesterly winds of force 7 were encountered over a limited area in the middle section of the southern steamer lanes.

On the 10th a moderate Low was central about 200 miles east of Halifax, and on the 11th was about the same distance east of Nantucket. On the 10th and 11th there was also a disturbance near the fiftieth parallel between the twentieth and thirty-fifth meridians.

Charts VIII to XI show the conditions from the 12th to 15th, inclusive, and give an idea of the weather encountered by the airplane *Yellow Bird*, that took off from Old Orchard Beach on the morning of the 13th, and landed on the beach near Santandar, Spain, late in the afternoon of the 14th.

From the 16th to 24th there ensued another period of comparatively favorable weather and slight pressure gradients over the ocean as a whole, although on the 19th Belle Isle, Newfoundland, reported a northerly wind, force 9, with rain, and barometer reading of 29.46 inches.

On the 25th there appeared in the middle section of the Gulf of Mexico the first tropical disturbance of the season. This was of limited extent and for the most part, of comparatively slight intensity, as it moved slowly westward, being on the 28th central near Brownsville, Tex. Up to the time of writing the American steamships *Trinidadian* and *Gulfoil* were the only vessels to render regular storm reports relating to this disturb-

ance. Vessels near by apparently encountered moderate weather only. However Capt. C. V. Nissen of the American steamship *Mexoil*, from New Orleans to Tampico, forwarded a special report in which he states that on June 27, 9 p. m., in 25° 18' N., 93° 46' W. he encountered this storm, and estimated the strength of wind in squalls at 80 miles an hour. The lowest barometer was 29.56 (uncorrected) at 2 a. m. on the 28th, wind SE., 8 to 10, heavy rain squalls, wind of hurricane force. End of gale, 8 a. m. on the 28th, wind S., 6. Sea moderating.

On the 26th a moderate depression was over the middle section of the steamer lanes; this moved rapidly eastward, and on the 27th was central near 46° N., 25° W. On the 27th there was also a depression over Newfoundland and moderate southerly gales prevailed between the Bermudas and fortieth parallel.

For the remainder of the month moderate weather was the rule over the ocean as a whole, although a few vessels in widely scattered localities reported winds of force 7 and 8.

OCEAN GALES AND STORMS, JUNE, 1929

Vessel	Voyage		Position at time of lowest barometer		Gale began	Time of lowest barometer	Gale ended	Lowest barometer	Direction of wind when gale began	Direction and force of wind at time of lowest barometer	Direction of wind when gale ended	Highest force of wind and direction	Shifts of wind near time of lowest barometer
	From—	To—	Latitude	Longitude									
NORTH ATLANTIC OCEAN													
Saguache, Am. S. S.	New York	Copenhagen	53 06 N	31 11 W	May 31	June 1	June 1	Inches 28.87	ENE	ENE, 7	ESE	9	ENE-E.
Examelia, Am. S. S.	Mediterranean	New York	39 27 N	25 52 W	31	—, 1	2	30.00	SSW	SSW, 8	W	SSW, 8	
Cornelia, Am. S. S.	New York	Porto Rico	32 20 N	70 40 W	June 10	8 a, 10	10	29.66	S	S, 8	SSW	S, 8	S-SSW.
New York City, Br. S. S.	Fowey, England	Portland, Me.	51 20 N	31 15 W	9	8 a, 10	12	29.39	SSW	WSW, 7	NNW	—, 9	S-SW.
Exhibitor, Am. S. S.	Marseille	Boston	41 35 N	51 20 W	12	Noon, 12	12	29.78	SW	WSW, 7	WNW	WNW, 8	WSW-W.
Coshoma County, Am. S. S.	Rotterdam	New York	48 48 N	17 15 W	11	Noon, 12	14	29.82	SW	SW, 8	SW	WSW, 9	W-SW.
München, Ger. S. S.	New York	Southampton	48 56 N	18 33 W	11	—, 13	14	29.65	WSW	W, 10	W	W, 10	W-NNW.
Middleham Castle, Br. S. S.	Gaeston	Havre	41 01 N	36 30 W	12	4 a, 15	17	29.96	SW	NNE, 6	NNE	NE, 8	
Trinidadian, Am. S. S.	Tampa	Port Arthur	28 16 N	88 03 W	24	11 p., 24	25	29.92	S	S, 7	S	S, 9	Steady.
Bird City, Am. S. S.	New York	Copenhagen	46 16 N	41 23 W	25	4 p., 25	27	29.66	W	W, 6	NNW	NNW, 8	NNW-E.
Wm. G. Warden, Am. S. S.	Montreal	Christi	38 51 N	62 18 W	26	Noon, 26	27	30.01	SW	SW, 8	SW	SW, 8	Steady.
Gulfoil, Am. S. S.	Port Arthur	Philadelphia	29 24 N	93 28 W	28	8 p., 28	28	29.93	SE	SE	SE	SE, 8	Do.
NORTH PACIFIC OCEAN													
Corinto, Am. S. S.	San Francisco	Cristobal	16 22 N	99 46 W	1	1 p., 1	1	29.52	NW	W, 9	SW	WSW, 10	NW-W-SW.
Mojave, Am. S. S.	San Pedro	Nagasaki	30 58 N	141 02 E	1	4 p., 1	1	29.45	S	SSW, 11	SW	SSW, 11	SSE-SW.
Havana Maru, Jap. S. S.	do	Yokohama	33 30 N	142 00 E	1	8 p., 1	2	29.41	E	NE, 8	SE	NNW, 10	ENE-NE-N.
Wisconsin, Am. S. S.	Hong Kong	San Francisco	30 30 N	132 50 E	3	1 p., 5	5	29.51	SSE	SSE, 7	SSW	SSW, 9	SSE-SSW.
Ayaha Maru, Jap. S. S.	Yokohama	Victoria	39 28 N	148 00 E	6	10 p., 6	7	29.10	E	ENE, 8	NNW	ENE, 8	6 points.
Golden Star, Am. S. S.	Otaru	San Francisco	49 26 N	178 36 W	5	12 mid	6	29.20	WSW	NW, 7	SSW	SW, 9	
Do	do	do	48 47 N	159 54 W	7	1 a, 8	9	29.27	E	SW, 7	SE	SW, 9	
Clydefield, Br. M. S.	San Pedro	North China	35 15 N	159 45 E	7	4 a, 8	9	29.82	SSW	W, 8	NW	S, 8	SW-W-NW.
Manoa, Am. S. S.	San Francisco	Honolulu	37 34 N	123 18 W	12	4 p., 12	12	30.02	N	N, 8	NNW	N, 8	N-NNW.
Silverguava, Br. M. S.	do	Yokohama	41 30 N	132 20 W	15	10 a, 15	16	29.67	SSW	SSW, 6	W	W, 8	
Victorious, Am. S. S.	Honolulu	Colon	14 08 N	103 20 W	16	4 p., 16	17	29.66	NNE	E, 9	SSE	E, 10	Steady.
City of Victoria, Can. S. S.	Tsugaru Sts.	San Francisco	42 22 N	153 00 E	19	2 p., 19	19	29.02	SE	SSE, 7	W	SSE, 8	SE-S-WSW.
Boren, Swed. S. S.	Manila	do	44 21 N	140 44 E	21	Noon, 22	22	29.92	ESE	SSE, 8	S	SE, 9	ESE-S.
Grays Harbor, Am. S. S.	Puget Sound	Yokohama	42 15 N	149 30 E	16	10 p., 16	17	29.17	ESE	SSW, 8	SW	SE, 9	S-SSW-SW.
SOUTH PACIFIC OCEAN													
Maunganui, Br. S. S.	New Zealand	Sydney, N. S. W.	36 02 S	154 30 E	9	4 p., 9	10	29.46	W	SSW, 8	SSW	SW, 9	S-SSW-SW.
SOUTH ATLANTIC OCEAN													
Nevada, Dan. S. S.	Rotterdam	Buenos Aires	34 30 S	53 12 W	11	8 p., 11	12	29.60	E	SSE, 9	SSW	SW, 10	E-SSE-SW.
Vandyck, Br. S. S.	New York	Montevideo	28 41 S	47 21 W	12	8 p., 12	13	29.93	SW	SW, 8	SSW	W, 9	

551.506 (265.2)

NORTH PACIFIC OCEAN

By WILLIS E. HURD

The conditions of atmospheric pressure in June had changed but little from those prevailing in May, except that as a rule the average barometric readings were somewhat lower over the eastern part of the ocean, St. Paul, in the Bering Sea, being the only station, among those given in Table 1, with pressure higher than in the preceding month. The Aleutian cyclone was well developed for the season; it was centered in its fluctuations principally near or south of Dutch Harbor, though on several days it lay over the Gulf of Alaska. On a few days of the month, during incursions southward from the gulf, it affected the weather along the Washington, Oregon, and upper California coasts, causing a few moderate to fresh gales in the vicinity.

Owing to the persistence of the Pacific-California HIGH, fine anticyclonic weather prevailed along the greater part of the steamer routes between the United States and the Hawaiian Islands, except east of the one hundred and thirty-fifth meridian, where fog was frequent.

Barometric data for several island and mainland coast stations in west longitudes are given in the following table:

TABLE 1.—Averages, departures, and extremes of atmospheric pressure at sea level at indicated hours, North Pacific Ocean and adjacent waters, June, 1929

Stations	Average pressure	Departure from normal	Highest	Date	Lowest	Date
	Inches	Inch	Inches		Inches	
Point Barrow ¹	29.65	—0.34	29.96	20th	29.06	9th.
Dutch Harbor ^{2,3}	29.81	—0.08	30.18	29th	29.34	9th.
St. Paul ²	29.81	—0.13	30.46	2d	29.32	12th.
Kodiak ²	30.13	+0.06	30.32	29th	29.86	2d.
Midway Island ^{2,4}	30.04	0.00	30.14	10th	29.90	21st.
Honolulu ²	29.90	—0.11	30.35	22d	29.32	15th.
Juneau ²	30.09	—0.05	30.49	19th	29.38	15th.
Tatoosh Island ^{2,6}	29.95	—0.01	30.22	18th	29.70	23d.
San Francisco ^{2,6}	29.91	+0.03	30.08	9th	29.75	27th.
San Diego ^{2,6}						

¹ Data insufficient to use.² P. m. observations only.³ For 23 days.⁴ For 25 days.⁵ A. m. and p. m. observations.⁶ Corrected to 24-hour mean.